Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for configuring a symmetric xDSL-type modem, comprising:

detecting a criterion corresponding to an asymmetric operating mode of said modem of an ADSL-type; wherein detecting such criterion includes obtaining an estimation of a length of a line; and

in response to said detection, disabling a number of carriers in order to establish the asymmetric operating mode of said modem.

2. (Currently Amended) ~~A~~ The configuration process according to claim 1 wherein said process is applied to a VDSL-type modem operating with up to 4096 carriers and being reconfigurable in ADSL mode with a number of carriers reduced to 256.

3. (Currently Amended) ~~A~~ The configuration process according to claim 1 wherein said detection of said criterion further includes a detection of signals defined in recommendation G.994.1 or a measurement of the signal to noise ratio per carrier.

4. (Currently Amended) ~~A~~ The configuration process according to claim 1 wherein said criterion is the estimation of the line length derived from a timing advance measurement.

5. (Currently Amended) ~~A~~ The configuration process according to claim 1, further comprising deactivating a cyclic suffix in a transmit path and digital power spectral

density shaping filtering for conformity to an ADSL-type mask, associated with a digital echo suppression filter and a temporal equalizer in a receive path.

6. (Currently Amended) ~~A~~ The configuration process according to claim 2 wherein in ADSL mode, the configuration process comprises:

in a transmit path:

activating a digital power spectral density shaping filter (PSF) for conformity with an ADSL-type mask;

deactivating a process for inserting a cyclic suffix after each symbol to be transmitted;

activating a $H^{-1}(f)$ pre-compensation before an inverse Fourier transform allowing to compensate for a phase and amplitude distortion introduced by said digital PSF; and

in a receive path, activating a digital echo suppression filter and temporal equalizer.

7. (Currently Amended) An xDSL-type modem allowing symmetric operation in DMT mode based on a number of carriers, comprising:

means for detecting a criterion for operation in an asymmetric mode of an ADSL-type mode, wherein said means for detecting such criterion includes means for obtaining an estimation of a length of a line; and

means for controlling, based on said detection of said criterion, disablement of a number of carriers in order to establish the asymmetric operating mode.

8. (Currently Amended) ~~A~~ The modem according to claim 7, further comprising means for communicating in VDSL mode and means for self-configuring in ADSL mode in response to detection of said criterion.

9. (Currently Amended) ~~A~~ The modem according to claim 7 wherein said detection of said criterion is a detection of signals defined in recommendation G.994.1 or a measurement of signal to noise ratio per carrier.

10. (Currently Amended) ~~A~~ The modem according to claim 7 wherein said criterion is the estimation of the line length derived from a timing advance measurement.

11. (Currently Amended) ~~A~~ The modem according to claim 7 wherein in ADSL mode, the modem comprises:

in a transmit path:

a digital power spectral density shaping filter (PSF) that can be disabled, for conformity to an ADSL-type mask;

means for pre-compensating phase and amplitude distortion introduced by said digital PSF filter;

means for deactivating insertion of a cyclic suffix after each symbol to be transmitted;

in a receive path:

a digital echo suppression filter (ESF) combined with a digital time-domain equalizer.

12. (Currently Amended) ~~A~~ The modem according to claim 11 wherein said power spectral density shaping filter (PSF) and echo suppression filter (ESF) are infinite impulse response low-pass filters.

13. (Currently Amended) ~~A~~ The modem according to claim 11 wherein said PSF and ESF filters are identical.

14. (Currently Amended) ~~A~~ The modem according to claim 11, further comprising in the transmit path, a complex gain element before modulation, in order to pre-compensate for distortion introduced by said PSF and ESF filters.

15. (Currently Amended) ~~A~~ The modem according to claim 7 wherein switching from ADSL mode to VDSL mode is accomplished in response to user control.

16. (Previously Presented) A method, comprising:

configuring a modem for interoperability between first and second xDSL operating modes;

detecting a criterion associated with the first operating mode, wherein detecting such criterion includes obtaining an estimation of a length of a line; and

in response to the detected criterion, disabling a number of carriers associated with the second operating mode to establish the first operating mode.

17. (Previously Presented) The method of claim 16 wherein detecting the criterion includes estimating a measure of said line length derived from a timing advance measurement.

18. (Previously Presented) The method of claim 16 wherein detecting the criterion includes detecting signals associated with the first operating mode.

19. (Previously Presented) The method of claim 16 wherein disabling the number of carriers associated with the second operating mode to establish the first operating mode includes disabling a number of carriers associated with a VDSL-type operating mode to establish an ADSL-type operating mode.

20. (Previously Presented) The method of claim 16, further comprising:

deactivating a cyclic suffix for a transmit path; and

digital signal processing based on a power spectral density shaping filter for the transmit path and based on a digital echo suppression filter and a temporal equalizer for a receive path.

21. (Previously Presented) An apparatus, comprising:

a modem to interoperate between first and second xDSL modes;

a first component of the modem to detect a criterion associated with the first mode, wherein detection of such criterion includes an estimation of a length of a line; and

a second component of the modem to disable a number of carriers associated with the second mode to establish the first mode, in response to the criterion detected by the first component.

22. (Previously Presented) The apparatus of claim 21 wherein the first component to detect the criterion can determine a measure of said line length derived from a timing advance measurement.

23. (Original) The apparatus of claim 21 wherein the first component to detect the criterion can detect at least one signal associated with the first operating mode.

24. (Original) The apparatus of claim 21 wherein the first mode comprises an ADSL-type operating mode, and wherein the second mode comprises a VDSL-type operating mode.

25. (Original) The apparatus of claim 21, further comprising:

a digital power spectral density shaping filter;

a pre-compensation unit coupled to the digital power spectral density shaping filter to pre-compensate phase and amplitude distortion introduced by the digital power spectral density shaping filter;

a deactivation unit to deactivate insertion of a cyclic suffix after each symbol to be transmitted; and

a digital echo suppression filter coupled to a digital time-domain equalizer.

26. (Original) The apparatus of claim 25 wherein the digital power spectral density shaping filter and echo suppression filter comprise infinite impulse response filters.

27. (Original) The apparatus of claim 25, further comprising a complex gain element before modulation to pre-compensate for distortion introduced by the digital power spectral density shaping filter and the digital echo suppression filter.

28. (Original) The apparatus of claim 21, further comprising:

a means for signal processing along a transmit path of the modem;

a means for signal processing along a receive path of the modem; and

a means for controlling switching operation between the first and second modes.

29. (New) The method of claim 1 wherein said detection enables top-down interoperability between said asymmetric operating mode of said modem and a symmetric operating mode of said modem.

30. (New) The modem of claim 7 wherein said means for controlling enables top-down interoperability between said asymmetric operating mode and said symmetric operation.